EVENTS

YALE MEDICAL SOCIETY

15 APRIL, 1931.

DR. EDWARD A. STRECKER, Professor of Psychiatry at Jefferson Medical College, read a paper on "Mechanisms in Hysteria and Neurasthenia".

As the repressed minority in politics or business may prevent the harmonious working of a majority, so the minority complexes repressed into the subconscious or unconscious may hamper and harass the working of the majority forces in the conscious mind of an individual. The result of such dissociation may be sleeplessness, somnambulism, inordinate worry, increasing dissatisfaction, nervous symptoms, nervous breakdowns, nervous paralyses, etc.

The introvert, faced with prolonged intolerable conflict reacts by continuing the sensation of emotions beyond normal limits and by super-appreciation of normal body sensations until a pathologic condition is suggested and this condition substituted for the complex. Such patients need training, not medication. The extravert faced with immediate pressure following a period of mental conflict reacts by rejecting totally the use of the organ or member directly involved in the conflict, securing this integrity of the individual at the expense of paralyses, anesthesiae, and loss of use of various sense organs. Here, too, training and not medication is indicated.

The difference between neurasthenia and hysteria is that in the latter the conflicting complex is relegated to the unconscious and the result is a disowning of physical or physiological functions, while in the former the conflict is relegated to the subconscious and the result is the adoption of a substitute pseudopathological organic condition. The treatment in either case is a full recognition of the underlying conflict and the building of new healthful reflexes. F. J. A.

At a meeting of the Yale Medical Society on May 13, the following papers were presented.

CHEMICAL AND VOLUME CHANGES TAKING PLACE IN SOLUTIONS INJECTED INTO THE PERITONEUM

ABRAHAM J. SCHECHTER, B.S.

Fluids introduced into the peritoneal cavity tend to assume the composition of edema fluid. Quantitatively, it was found that the total amount of fluid recoverable after the injection of an electrolyte solution falls on a straight line, but that after the injection of glucose the amount of fluid in the peritoneal cavity first increases and then falls. This indicates that glucose solutions given for dehydration should be injected intravenously. T. C. M.

THE GLUCOSE TOLERANCE IN VITAMIN B DEFICIENCY

ETHEL BURACK, B.A.

The disturbances in carbohydrate metabolism seen in cases of vitamin "B" insufficiency are due to general inanition rather than to the specific lack of vitamin

"B". The disturbances can be overcome by giving more food; not by giving an insufficient amount of food with an excess of vitavose (vitamin "B" concentrate).

T. C. M.

A STUDY OF THE ALLERGIC REACTION OF THE CENTRAL NERVOUS SYSTEM

C. G. Burn, M.D., and Knox H. Finley, M. D.

At varying intervals after the injection of tubercle bacilli, guinea pigs were given Old Tuberculin by injection into the basal cistern. A marked reaction, in the form of a polymorphonuclear exudate, developed in the meninges. Control animals showed practically no reaction. Dead tubercle bacilli caused a greater response than did O. T., while material taken from a caseous lymph node caused an exudate of the large mononuclear type. The exudative character of the response shows it to be of the allergic type. T. C. M.

OBSERVATIONS ON THE CENTRAL ORIGIN OF THE SYMPATHETIC TONE OF THE EYE STRUCTURE OF THE CAT.

Allen D. Keller, Ph.D.

Experimental proof that a center in the hypothalamus is the "head-ganglion" of the sympathetic system was offered. The brain-stems of cats were transected below the hypothalamus and the central connections of the cervical sympathetic chain on one side divided. Stimulation of the peripheral brain-stem resulted in mydriasis and protrusion of one eye, while Homer's syndrome appeared in the other—on the side where the central connections of the cervical sympathetic had been cut. Exciting the animals resulted in the disappearance of the Homer's syndrome, indicating that the peripheral sympathetic mechanism was intact and subject to chemical (adrenalin) stimulation. M. E. W.

On April 14, under the auspices of the Alpha Omega Alpha Fraternity, Dr. Elliot J. Cutler, Professor of Surgery at Western Reserve University School of Medicine, read a paper on "The Principles of Surgery—their Theory and Practice".

After presenting briefly the general topic of surgery, indicating the scope of the surgeon's work and what is usually expected of him, he discussed the three cardinal principles of surgery,—anesthesia, hemostasis, and asepsis,—dwelling particularly on hemostasis. He asserted that the present trend in surgery is away from speed and toward care in operating. The value of this is demonstrated in the fact that most postoperative complications are caused by either insecure ligation or injury to the blood vessels. To "leave every cell in as normal a condition as possible" is a motto he has found worth following.

Dr. Cutler closed his discussion with a word to those considering surgery as a profession. He suggested the plan of spending a year in research, allowing time for considerable introspection and for "finding one's self". Following this there

would be an internship in surgery for about two years, and then a period of apprenticeship lasting from two to four years with some recognized surgeon.

J. F. B.

At a lecture given on April 14, under the auspices of the New Haven Branch of the American Chemical Society, DR. MICHAEL HEIDELBERGER, of the Presbyterian Hospital, New York, talked on "Some Organic and Physical Chemical Aspects of Immunity Reactions".

Antigen-antibody reactions are defined as visible demonstrations of the response of an animal to a foreign body, usually thought to be a protein or to be associated with a protein. However, the recent work on specific soluble substances, carbohydrate in nature, which are responsible for type specificity in the pneumococcus antigen-antibody reactions has thrown much light on the nature of antigens. If the nitrogen content of these specific soluble substances is decreased the type specificity is increased. About 30 types of pneumococci have been differentiated. The protein component of the cell is, of course, responsible for species specificity. The specific soluble substances resemble polysaccharides. Those derived from types I, II, and III have been most widely studied, and these differ markedly in behavior toward polarized light, in acid content, and in the amount of glucose which they will yield.

The reacting sera have been freed of 90 per cent of the serum proteins (Felton's method) with 75 to 80 per cent of the precipitating or protective antibodies left in the purified sera. Specific soluble substances will precipitate from 39 to 47 per cent of the nitrogen, the amount precipitated being independent of the total nitrogen.

Further studies of these reactions of the purified antisera and specific soluble substances have shown that the reactions follow the law of mass action. An antigenic dye has also been built up so that antigen-antibody reactions can be determined colorimetrically. Again the reactions follow the mass law. L. B.

At the meeting of the Connecticut Branch of the Society of American Bacteriologists held on May 23, the following papers were presented.

THE RECOVERY OF BACTERIOPHAGE FROM FILTRATES DERIVED FROM HEATED SPORE SUSPENSIONS

PHILIP B. COWLES

Evidence is presented to show that known bacteriophage-free strains of several spore-forming organisms can be so changed by the action of the bacteriophage that the principle can be demonstrated in filtrates of cultures developed from heated spores. This does not necessarily mean that the lytic agent as such survives the heating process, but it does imply that the recovery of a lytic principle from a pasteurized culture is not conclusive proof of the spontaneous generation of bacteriophage. L. W.

BACTERIAL MUTATION

F. D'HERELLE

Along the line of earlier work with *V. cholerae*, experiments were undertaken with *B. typhi-murium* establishing a symbiotic relationship between the organism and a bacteriophage isolated from sewage. The organism was found to undergo variations which were disorderly and in which each of the characters varied independently of the other characters. The variations are assumed to be the result of symbiosis with the parasitic bacteriophage rather than as events in the life cycle.

M.E. W.

AIR DISSEMINATION OF BACTERIOPHAGE IN THE LABORATORY

M. G. COLVIN

It has been shown that bacteriophage is transmitted through the air in association with droplets and dust in a manner entirely analogous to the transmission of bacteria. This suggests that the contagion of virus and bacterial diseases occurs through the same mechanisms. Because of its resistance to drying, bacteriophage has been used to demonstrate the relative efficiency of the usual methods of cleaning and the relation of these methods to atmospheric pollution.

The presence and distribution of pathogenic micro-organisms in the air indicate that the control of infectious disease must be based in large measure on protective inoculation. L. W.

ELECTROMETRIC SEROLOGICAL DETERMINATIONS ON SYPHILITIC AND NON-SYPHILITIC SERA

L. E. FARR

Published in full in this issue.

THE ISOLATION OF POTENTIAL PATHOGENIC BACTERIA FROM THE ORGANS OF MAN AT AUTOPSY.

C. G. BURN

Routine bacteriological studies of 265 autopsies revealed many of the organs and body fluids to be positive for bacteria. An analysis of the data suggests that these organisms are not postmortem invaders. C. G. B.

TOXIN PRODUCTION OF BACT. PULLORUM

J. H. HANKS

From the cells or culture filtrates of *Bact. pullorum* a toxin was derived, which had in general the properties ascribed to toxic substances prepared from other members of the colon-typhoid group. Although this toxin was lethal for rabbits, guinea pigs, and mice, it was innocuous to chicks. These results emphasize the fallacy of implying that the reactions of an experimental animal are analogous to those of a naturally susceptible host. L. W.

SOME FACTORS INVOLVED IN THE BIOLOGICAL FORMATION OF ACETONE AND BUTYL ALCOHOL.

L. WEINSTEIN

Evidence is presented to show that an alcohol-soluble protein must be present for the formation of butyl alcohol from simple sugars in a semi-synthetic medium by *Clostridium acetobutylicum*. The production of acetone does not depend on the presence of any particular type of protein. Studies of the production of solvents from the acid hydrolysates of various raw materials such as cotton-seed hulk, peanut husks, wood saw-dust, etc. showed that these were very good sources of both butyl alcohol and acetone if a prolamine-containing substance, such as yellow corn, was incorporated into the medium.

Several assumptions as to the action of prolamine have been proposed, the most logical one being that the protein exerts its influence through its combined physical and chemical effect on the formation and action of the enzyme involved in the formation of butyl alcohol. L. W.

New Haven Medical Association—April 1. "Precepts in the Treatment of Fractures" by DR. JOHN J. MOORHEAD.

Dr. Moorhead emphasized the practical aspect of the treatment of fractures in general, laying down many basic principles for the handling of fractures by the general practitioner or by the specialist. He then mentioned the most common fractures, indicating the proper treatment of each and the most frequent mistakes made. M. E. W.

New Haven Medical Association—April 15. "Some Phases of Thyroid Diseases with Special Reference to Surgical Treatment" by DR. EMIL GOETSCH.

The diseases to which the thyroid gland is susceptible were reviewed, with emphasis on those which are amenable to surgical treatment. The speaker made a strong plea, which was reiterated by the men who discussed the paper, for the proper use of iodine in the treatment of Graves' disease. Iodine, usually prescribed in the form of Lugol's solution, should never be given until a week before operation. One course of iodine treatment has a remarkable effect in lowering the basal metabolic rate, with subjective symptomatic improvement as well, but this effect wears off in from two to three weeks. If, then, the treatment is reinstituted in an attempt to prepare the patient for operation, no reduction in the basal metabolic rate can be obtained. Such a patient presents a much more serious problem to the surgeon than does the one who can be prepared properly.

M. E. W.

New Haven Medical Association—May 6. "Present Day Problems in Gastro-enterology" by DR. W. S. ALVAREZ.

In a discussion of the physiology, etiology, diagnosis, and treatment of gastro-intestinal disorders the speaker explained his theory of a gradient of muscular

activity or irritability. If this gradient is changed, normal function is interfered with. Pregnancy, the "common cold", and operations on the abdomen are among the conditions which reverse the gradient.

Dr. Alvarez decried the practice of discussing business at meals, for nervous excitement changes the normal physiological mechanism of digestion, perhaps causing a change in the concentration of the intestinal secretions. The undigested food may produce irritation of the intestinal mucosa, with resultant "heart burn", regurgitation and discomfort.

Conditions which may simulate gastro-intestinal disorders are herpes zoster, migraine, enlarged or calcified mesenteric lymph nodes (especially in children), and a condition termed "pseudo-ulcer". In the latter, the symptoms continue over a period of days with pain at atypical times as, for example, before breakfast. In this condition, roentgenograms are negative.

In treatment, it is necessary to distinguish surgical, medical, and psychic cases. A certain group of patients are "constitutionally inadequate". This condition is a distinct clinical entity, should be recognized early, and the patient advised that therapeutic assistance is impossible.

For ulcers Dr. Alvarez advised rest, food between meals, and sedatives. These are usually helpful without the use of alkali.

Application of his gradient theory indicated that a number of difficult cases can be helped, as when a case of persistent vomiting was relieved by a meal of steak and toast in place of a soft diet. This solid food was considered to stimulate more vigorously the upper part of the gastro-intestinal tract and thus change the reversed gradient to the normal type. C. K.

New Haven Medical Association—May 13. "Postoperative Pneumonia", by Dr. Walter E. Lee.

The rapid onset and disappearance of symptoms in "postoperative pneumonia", as contrasted with "medical" pneumonia, led to an inquiry into the nature of the condition.

Chevalier Jackson suggested that the pneumonia might in reality be an atelectasis resulting from a plugging of the bronchi with mucus which could not be removed by the patient's physiological mechanism because of the anesthetic used. About 25 patients with postoperative pneumonia were bronchoscoped and after removal of some of the thick mucus, thus allowing air to get in and enable the cough reflex to expel the rest, they had a rapid subsidence of signs and symptoms.

The conditions observed in patients, and the treatment applied were reproduced in dogs, using the material aspirated from patients and, in some cases, sterile acacia solution of the same physical properties, with similar results.

The speaker emphasized the fact that bronchoscopy was not indicated as treatment, but had been used merely to confirm his theory as to the pathogenesis. The condition can be prevented by producing hyperventilation postoperatively by some such means as CO_2-O_2 inhalations. F. J. A.

New Haven Medical Association—June 3. "Rheumatoid Arthritis" by DR. WENDEL STAINSBY.

Dr. Stainsby emphasized the experimental work that is being carried out in New York under the direction of Dr. Cecil in attempting to isolate organisms from the blood of patients with chronic infectious arthritis. By the use of special culture media they have demonstrated hemolytic streptococci, related antigenically to erysipelas and scarlet fever strains, in the blood of advanced cases. The important considerations in their work have been: (1) to study the clinical course of rheumatoid arthritis, distinguishing it from osteo-arthritis and chronic gout; (2) to isolate organisms by means of special media; (3) to carry out agglutination tests on the sera of all patients as an aid to diagnosis; (4) to attempt to produce chronic polyarthritis in rabbits. With reference to treatment, Dr. Stainsby emphasized the importance of correct diagnosis, warm climate, and, generally, no restriction of diet, except for those who are overweight. Rest, with a minimum of exercise, and physiotherapy after medical treatment were advocated. Clearing up foci of infection is important in early cases. He considered salicylates best for alleviating pain, and suggested that specific vaccines may soon be available.

D. J. C.

DEDICATION OF THE INSTITUTE

The formal dedication of the Institute of Human Relations took place on May 9, in the terraced court enclosed by the Institute and Medical School buildings. Governor Cross presided.

The key-note of the Institute program was voiced by President Angell, who stated that the Institute was "devised to bring together into effective voluntary cooperation the various men in the existing University departments of the sciences and the arts, that, through their joint study, man and society may be more fully understood".

Governor Cross, who, as former Dean of the Graduate School, had taken part in the early plans for the Institute, congratulated President Angell upon his bringing unity to completion at Yale, and cited the Institute as an example of the unity obtained.

Dr. Ray Lyman Wilbur, Secretary of the Interior and President of Leland Stanford University, emphasized the importance of studying the needs of man and society as modern life increases in complexity. He regarded the opening of the Institute as a major step in the advancement of knowledge.

The final speaker was Dr. George E. Vincent, former President of the Rockefeller Foundation and former President of the University of Minnesota. He affirmed prevention to be the rallying cry of today, not only prevention in diseases but also in such fields as delinquency, crime, and mental hygiene, and he expressed the aim of the Institute as being prevention in many such fields.

C. C. C.

The Corporation of the University has announced the promotions and appointments to the Faculty of Yale University. The list includes the following:

Professors: Ira V. Hiscock, Public Health; Walter R. Miles, Psychology.

Clinical Professors: Catharine C. Miles, Psychology; Richard F. Rand, Obstetrics and Gynecology.

Associate Professors: Willard B. Soper, Medicine; Lloyd J. Thompson, Psychiatry and Mental Hygiene; Henry G. Barbour, Pharmacology and Toxicology; George R. Cowgill, Physiological Chemistry.

Associate Clinical Professors: Luther K. Musselman, Obstetrics and Gynecology; Elwyn R. Bryant, Dental Surgery; Charles T. Flynn, Laryngology; Frank L. Phillips, Rhinology.

Research Associates (Rank of Assistant Professor): Samuel S. Ackerly, Delinquency Study; Alice M. Loomis, Social Science Methodology.

Assistant Clinical Professor: Howard S. Colwell, Medicine.

Instructors: Helen R. Brown, Nursing; Walls W. Bunnell, Medicine; Norval F. Burk, Physiology; Sophie B. deAberle, Obstetrics and Gynecology; Louis M. D'Esopo, Medicine; Eilhard von Domarus, Psychiatry and Mental Hygiene; Douglas M. Gay, Surgical Pathology; Richard W. Jackson, Physiological Chemistry; Yale D. Koskoff, Physiology; Ralph G. Meader, Anatomy; Paul F. McAlenney, Pediatrics; Leslie F. Nims, Physiology; Robert Tennant, Pathology; Felix F. Tomaino, Obstetrics and Gynecology; Frederick E. Tracy, Radiology; Herman Yannett, Pediatrics.

Research Assistants (Rank of Instructor): George A. Hunt, Bacteriology; Carlyle F. Jacobsen, Psychology; Morris L. Rakieten, Bacteriology; Joseph G. Yoshioka, Psychology.

Clinical Instructors: Edward N. DeWitt, Ocular Pathology; Amy L. Hunter, Pediatrics; Susan P. Souther, Pediatrics.

Appointments in the Department of University Health (Rank of Instructor): Alice H. Cook, Assistant Physician and Medical Examiner; Louise de Schweinitz, Assistant Physician and Medical Examiner; Hugh Folsom, Second Medical Assistant; Frank Mongillo, Medical Examiner.

Among the Sterling Fellows for the year 1931-32 are:

Leona Baumgartner, M.A., Paul R. Bowen, M.S., Frank H. Couch, M.D., William F. Hanna, Ph.D., Stephen Ludwig, Ph.D., Oscar E. Schotté, D.Sc., and Abraham White, M.A.

From the Alexander Brown Coxe Fund three awards have been made for research in the biological sciences. The recipients are: Alfred Z. Gilman, B.S., George Scheff, M.D., and Bernard W. Town, Ph.D.

Seessell Research Fellowships have been awarded to George H. Smith, Ph.D., and to Dorothea Rudnic, Ph.B.

An Honorary Research Fellowship has been awarded to Richard J. Block, B.S.

The Committee on Research Funds has made the following grants for the academic year 1931-32:

Dr. Francis G. Blake, Professor of Medicine: To investigate host factors in the etiology and pathogenesis of pneumococcus pneumonia.

Dr. George R. Cowgill, Associate Professor of Physiological Chemistry: To continue a study of the rôles of the components (vitamins B and G respectively) of the B complex in correcting the anorexia characteristic of so-called vitamin "B" deficiency.

Dr. Sophie B. deAberle, Instructor in Obstetrics and Gynecology: To study the oestrus cycle and the diagnosis of early pregnancy.

Dr. James C. Fox Jr., Assistant Clinical Professor of Medicine: To continue an experimental study of the eye movements.

Dr. John F. Fulton, Professor of Physiology: To continue the investigation of the neurological mechanism of skilled movements.

Dr. Harold E. Himwich, Associate Professor of Physiology: To continue studies on fat metabolism.

Dr. David I. Hitchcock, Associate Professor of Physiology: For a study of the physical chemistry of proteins.

Dr. Richard W. Jackson, Instructor in Physiological Chemistry: For a study of the metabolism of tryptophane.

Dr. Denis S. O'Connor, Assistant Professor of Orthopedics: To study the etiology of osteochondritis deformans juvenilis.

Dr. Ashley W. Oughterson, Assistant Professor of Surgery: For investigations in the physiology of peripheral vascular disease.

Dr. John R. Paul, Assistant Professor of Medicine: To study the dissociation of the pneumococcus and the occurrence of this phenomenon in pneumococcus infections.

Dr. John P. Peters, Professor of Medicine: To continue studies of blood electrolytes, nephritis, water exchange, and acidosis.

Dr. Leo F. Rettger, Professor of Bacteriology: To continue the study on the intestinal flora of fishes.

Dr. George H. Smith, Professor of Immunology: To study the effects of light on serological and immunological processes in vivo.

Dr. Willard B. Soper, Associate Professor of Medicine: For the conduct of studies on tubercle bacilli.

Dr. Albert J. Sullivan, Instuctor in Medicine: To conduct studies on intestinal anaphylaxis.

Dr. James D. Trask, Associate Professor of Pediatrics: For studies on whooping-cough.

Dr. Frank P. Underhill, Professor of Pharmacology and Toxicology: For an investigation of experimental pellagra.

Professor Charles-Edward A. Winslow, Professor of Public Health: To continue the study of the fundamental cell metabolism of bacteria.

Dr. Arthur M. Yudkin, Associate Clinical Professor of Ophthalmology: To continue studies on the fluids of the eye.

Dr. Harry M. Zimmerman, Assistant Professor of Pathology: For a study of the human fetal cerebral cortex.

Elected:—

To the Editorial Board of the YALE JOURNAL OF BIOLOGY AND MEDICINE: Clement C. Clarke, Lee W. Dean Jr., Robert W. Huntington Jr., Lester J. Sawyer, Myron E. Wegman, Frederick A. Wies.

To the Yale Chapter of Sigma Xi:

From the Faculty of the School of Medicine: William E. Callison, Louis M. D'Esopo, Graydon L. Freeman, William J. German, Ernest R. Hilgard, Ashley W. Oughterson, Herbert Thoms, Vincent D. Vermooten, Herman Yannett.

Promoted from the rank of Associate, were:

Richard J. Block, Ethel Burack, Charles A. Cook, Alfred Z. Gilman, Carroll W. Grant, John H. Hanks, Paul Harper, Harold E. Harrison, Kathryn Horst, Thomas C. Jaleski, David Kalkstein, Ralph G. Meader, Leslie F. Nims, Austin Phelps, Abraham J. Schechter.

To the Yale Chapter of the honorary medical society, Alpha Omega Alpha:

Lee E. Farr, Robert W. Huntington Jr., Nathan T. Milliken, Myron E. Wegman.

The Faculty of the School of Medicine awarded honors as follows:

The Campbell Gold Medal to Max Taffel.

The Parker Prize to Paul Harper.

The Ramsay Memorial Scholarship to Myron E. Wegman, with Robert W. Huntington, Jr., as alternate.

The Perkins Scholarship to Irving Friedman, with George K. Hirst as alternate.

The Keeze Prize, awarded for the most meritorious thesis, to Abraham J. Schechter, with Honorable Mention to Harold E. Harrison and Yale D. Koskoff. Worthy of mention were the theses submitted by Louis H. Cohen, Paul Harper, Dorothy Loomis, Sheldon Payne, and Paul Ross.

The degree of Doctor of Medicine, *cum laude*, was conferred on Jean J. DuMortier, Paul Harper, Harold E. Harrison, Marion B. Leonard, Abraham J. Schechter, and Max Taffel.